PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	See Form PCT/ISA/210 (sheet 2)
Applicant's or agent's file reference: B02/3678QT	FOR FURTHER ACTION: See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/FR2004/003173	09.12.2004	09.12.2003

International Patent Classification (IPC) or both national classification and IPC
A01 N65/00 A01 N31/02

Applicant
DIANA VEGETAL

1. This opinion contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☒	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP Facsimile No.	Authorized officer Telephone No.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/FR2004/003173

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/FR2004/003173

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	7-19	YES
	Claims	1-6	NO
Inventive step (IS)	Claims	7-19	YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: Lawson et al., *Planta Medica*, vol. 57, 1991, pages 363-370

D2: Shyh-Ming Tsao and Mei-Chin Yin, *J. Med. Microbiol.*, vol. 50, 2001, pages 646-649,

D3: Deb-Kirtaniya, S. et al., *Indian J. agric. Sci.* (06-1980), 50(6), 507-509

D4: US-B1-6 511 674 (ARAND ANTHONY ET AL) 28 January 2003 (2003-01-28)

D5: Staba EJ et al., *J. Nutrition*, vol. 131, 2001, pages 1118S-1119S

Novelty

2 The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claims 1-6 is not novel (PCT Article 33(2)).

2.1 Document D2 describes the use of a garlic oil obtained by vapour distillation, comprising the sulphur-containing molecules DAS, DAS2, DAS3 and DAS4, the sum by weight of which is at least equal to one milligram per gram of composition (table 1),

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

as a "biopesticide", in particular as a fungicide against the species *Aspergillus* (tables 2 and 3, page 648), which is a plant pathogen.
Document D3 (pages 508-510, tables 1-2) describes the use of a garlic oil obtained by vapour distillation (and thus having the compositions described in D2) as an insecticide. The subject matter of claims 1 to 3 is thus not novel.

2.2 First of all, it should be noted that the definition of the composition of claim 4 as a "biopesticide" does not make the claimed composition novel in itself, because this is a desirable effect ("desideratum") and not a technical feature of the composition.
Therefore, the composition claimed in claims 4 to 6 is not novel in relation to D1, D2 and D3.
Documents D1 (page 367, table 3) and D2 (page 647, table 1) describe the composition of a garlic oil obtained by vapour distillation, comprising the sulphur-containing molecules DAS, DAS2, DAS3 and DAS4, the sum by weight of which is at least one milligram per gram of composition, and in which the DAS2 constitutes at least 50% of the diallyl polysulphides present. The other compounds which are part of the garlic oil (which is a plant oil) are "formulation adjuvants" according to the description of the application (page 4, line 22).
D3 (page 508) describes a garlic oil obtained by vapour distillation (and therefore having the composition described in D2).

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2.3 None of the documents cited in the search report anticipates the subject matter of claims 7 to 19.

Inventive step

3 Claims 2 and 3 do not meet the requirements of PCT Article 33(3) in view of D4. Document D4 discloses (column 4, lines 14-20) the effects of diallyl disulphide as an insect repellent.
In view of D4, it is thus obvious to use the composition disclosed by D1 or D2 for controlling insects.

3.1 None of the documents cited suggests the specific steps of the method of claims 7-10.
The methods for obtaining garlic oil by vapour distillation described in D1 and D2 do not provide for a step consisting of filtration of the pressed garlic followed by a step consisting of concentration under vacuum and subsequent recovery of the volatile fractions.
In addition, it is in particular recognized in the art (see, for example, D5, page 1118S, right-hand column) that the composition of the garlic extracts varies according to the method used to obtain the extracts. As the method according to claim 7 makes it possible to obtain the novel composition of claims 11 and 12, the method is considered to be inventive.

3.2 None of the documents cited discloses or suggests a composition according to claim 11 or 12 comprising DAS, DAS2, DAS3 and DAS4, the sum by weight of which

is at least equal to one milligram per gram of composition, and Gluacs. The subject matter of claims 11-19 is thus considered to be inventive.

Industrial application

4. The subject matter of claim 3 concerns the use of a composition for controlling human and animal infestation with sucking insects. According to the established case law of the European Patent Office, the subject matter of claim 3 is comparable to a prophylactic treatment, and thus to a method of therapeutic treatment, aimed at preserving health by preventing diseases carried by sucking insects. For the assessment of the methods of treatment on the question of whether they are industrially applicable, no unified criterion exists in the PCT Contracting States. Patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject matter of claims relating to the use of a compound in a medical treatment, but may allow, however, claims relating to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/FR2004/003173

Box No. VII **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

5 Figure 1 mentioned on page 6 (line 17) of the description is not attached to the application.

The citations of the documents reflecting the prior art, mentioned on pages 1 and 2, are incomplete.